

## ABSTRACT OF THE DISCLOSURE

The present invention discloses an interferometer optical switch that can carry out switching over a broad  
5 band and has a high extinction ratio and large fabrication tolerance. The optical multi/demultiplexing device employs a phase generating coupler(111), the phase difference of the output of which has wavelength dependence, as at least one of the optical multi/demultiplexing device included  
10 in the interferometer optical switch. A wavelength insensitive interferometer optical switch is implemented by making the sum  $2\pi\{\phi_1(\lambda) + \phi\Delta_L(\lambda) + \phi_2(\lambda)\}$  constant regardless of the wavelength, where  $\phi_1(\lambda)$  is the phase produced by the phase generating coupler(111),  $\phi\Delta_L(\lambda)$  is  
15 the phase difference of the optical delay line(131) with an optical path length difference of  $\Delta L$ , and  $\phi_2(\lambda)$  is a phase difference between light rays output from a directional coupler (153).